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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,910	07/07/2003	Ming Hong Kuo	FP9517	4316
52981	7590	11/23/2005	EXAMINER	
LEONG C LEI			SHARMA, RASHMI K	
PMB # 1008			ART UNIT	
1867 YGNACIO VALLEY ROAD			PAPER NUMBER	
WALNUT CREEK, CA 94598			3651	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/612,910	Applicant(s) KUO, MING HONG	
	Examiner Rashmi K. Sharma	Art Unit 3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo (U.S. Patent number 6,637,585) in view of Bernreuther et al. (U.S. Patent number 5,521,478).

Kuo discloses a transporting device for a vertical-type thin circuit board etching machine comprising:

- a base plate including a flat plate (100) and a seamless rail (defined by the inner portion of 400 between the two outer rollers);
- a transmission shaft (500) provided with worm threads (see Figures 3 & 4);
- a plurality of worm gears (210) engaged with the worm threads of the transmission shaft (500);
- a plurality of vertical shafts (see Figures 3-6) each having an upper end (area around 500 in Figures 3-6) engaged with a respective one of the worm gears

(210) whereby the vertical shafts each have a lower end (see Figure 4) extending downwardly into the flat plate (100);

- a plurality of support rollers (202 & 203) mounted on the vertical shafts;
- a plurality of soft transmission clip rollers (230 or the rollers directly above 230 as shown in Figure 4) each mounted on a lower end of a respective one of the vertical shafts, wherein the soft transmission clip rollers are positioned above the rail (400);
- whereby a circuit board (700) is transmitted the soft transmission clip rollers, the circuit board (700) will be guided by the rail (400) thereby enabling the circuit board (700) to move smoothly along the rail (400) without causing damage to a lower edge of the circuit board (700);
- wherein the flat plate (100) is provided with a plurality of protruded shaft hole seats (102) each adapted to receive the lower end of the vertical shafts.

Kuo as disclosed above, fails to explicitly show an electric motor connected to the transmission shaft and anti-corrosive rigid material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Kuo's power source with an electric motor connected to the transmission shaft, as disclosed in Bernreuther et al. in order to provide for an alternate power source.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the rail and/or all of the parts of the transporting device etching machine to be made of an anti-corrosive material as discussed in Kuo's

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invention in order to protect these parts from the corrosive agents being sprayed onto the circuit boards as they are being conveyed and Kuo's invention also conveys circuit boards, it would further be obvious to provide a rail that would be made of accommodating materials to the circuit board processing and conveyance.

Response to Arguments

Applicant's arguments filed 10/21/05 have been fully considered but they are not persuasive.

Claim language from previously finally rejected claims (and currently cancelled claims 8-11), are now combined into new claim 12. Applicant fails to provide any substantive arguments with regard to new claim 12, other than "This feature is not shown in either Kuo (U.S. Patent number 6,637,585) or Bernreuther et al. (U.S. Patent number 5,521,478)", specifically referring to "a transporting device for a vertical-type thin circuit board etching machine which utilizes a rail made of anti-corrosive rigid material to guide a lower edge of a circuit board thereby enabling very thin circuit boards to be transmitted smoothly through an etching machine". However, the rejection above still stands, as each and every claim limitation of claim 12 is met by Kuo and/or Bernreuther et. al., and the references combined together do indeed disclose each and every claim limitation and would therefore have been obvious to one having ordinary skill in the art.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view

of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashmi K. Sharma whose telephone number is 571-272-6918. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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GENE O. CRAWFORD
SUPERVISORY PATENT EXAMINER